

**Public Workshop
on
The 2004 Water Desalination
Proposal Solicitation Package**



**Department of Water Resources
Office of Water Use Efficiency**

November 15, 2004



Why Desalination?

- By 2030 California is projected to have 12 million more people
 - increased reliable water needs
- Conventional water resources are declining:
 - Colorado River 4.4 Plan
 - Local groundwater contamination in some areas
 - Environmental Needs (Bay-Delta, Mono Lake, Etc.)
 - Possible effects of climate change on surface runoff patterns
- Nonconventional sources (Desalination/Recycling) are:
 - Reliable
 - Drought proof
 - High quality water

Desalination in California:

Legislative actions (1/3)

- **AB 2918** (Laird, 2004) - Electricity rates.
Bill would require that the California Public Utilities Commission (CPUC) evaluate the interrelationship between the CPUC's electricity policies and water policies as they relate to saline water conversion through ocean desalination.
- **SB 1318 and SB 1319**
(Burton & Alpert, 2004)
Bills would establish the Ocean Protection Council to coordinate activities related to the protection and conservation of coastal water and ocean ecosystems.

Desalination in California:

Legislative actions (2/3)

- Prop 50, Chapter 6. (Water Code § 79545)
Contaminant and salt removal technologies: \$100 million available for appropriation for desalination projects (6a. \$50 million) and for treatment, contaminant removal, and disinfection projects.
- AB 314 (Kehoe, 2003 - Water Code § 12947)
Desalination was given same opportunities for state assistance and funding as other water supply and reliability projects.

Desalination in California:

Legislative actions (3/3)

- AB 2717, [Hertzberg (Chapter 957, Statutes of 2002)]
Water Desalination Task Force
(Convened by DWR in 2003)
- SB 1062 (Poochigian, 1999 - Water Code § 10004)
California Water Plan: DWR is required to include in the plan a discussion of various strategies, including new water storage facilities, water conservation and recycling, desalination, conjunctive use, and water transfers.

Cal. Water Plan Overview



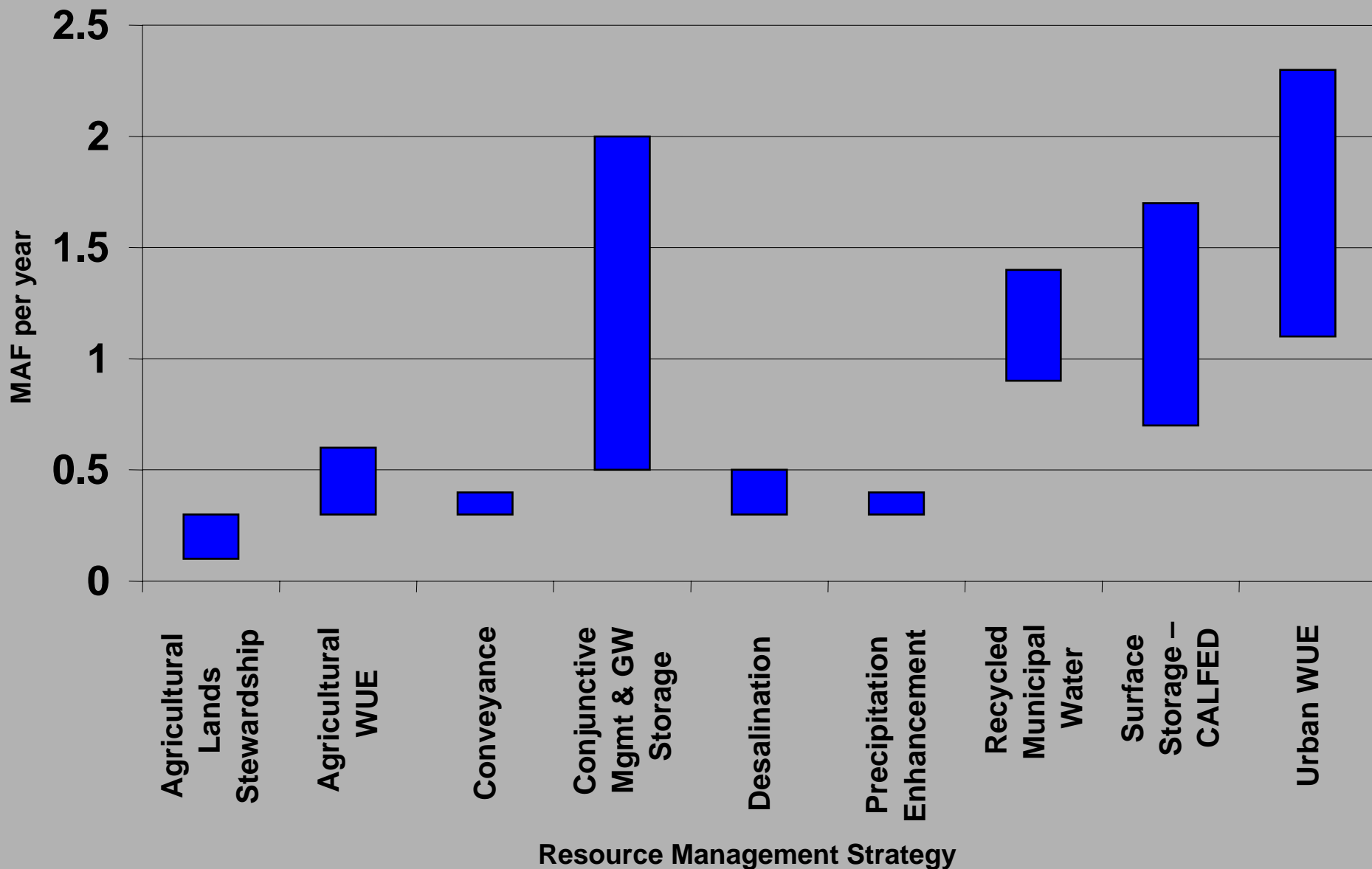
- **One of DWR's Major Activities**
- Required by law (Water Code)
- **First Water Plan -Bulletin 3 (1957)**
- Seven Updates (Bulletin 160)
- **Updated every five years**
 - Last in 1998
 - Next in 2004
- **State's Strategic Plan**
 - For Water Resource Development

Resource Management Strategies

1. Ag. Lands Stewardship
2. Agricultural Use Efficiency
3. Conj. Mgmt / GW Storage
4. Conveyance
- 5. Desalination**
6. Drinking Water Treatment & Distribution
7. Economic Incentives
(Loans, Grants & Water Pricing)
8. Ecosystem Restoration
9. Floodplain Management
10. GW / Aquifer Remediation
11. Matching WQ to Use
12. Pollution Prevention
13. Precipitation Enhancement
14. Recharge Area Protection
- 15. Recycled Municipal Water**
16. Surface Storage – CALFED
17. Surface Storage –
Region/Local
18. System Reoperation
19. Urban Land Use Management
20. Urban Runoff Management
21. Urban Water Use Efficiency
22. Water-Dependent Recreation
23. Water Transfers
24. Watershed Management
25. Other Strategies (R&D)

Resource Management Strategies

Potential Range of Additional Water Supply Benefits



Desalination Task Force: Background & Objectives

- **AB 2717, Hertzberg – Signed 09/26/2002**
- **Task Force Formed by DWR**
 - **Convened 05/29/2003**
 - **Report to Legislature 10/09/2003**
- **Objectives:**
 - **Identify potential opportunities and impediments for using desalination**
 - **Examine what role, if any, the State should play in furthering the use of desalination**

Among the Task Force's 29 Major Recommendations:

- ✓ Include desalination, where economically and environmentally appropriate, as an element of a balanced water supply portfolio, which also includes conservation and water recycling to the maximum extent practicable
- ✓ Provide funding for research and development projects
- ✓ Evaluate all new water supply strategies including desalination based integrated planning, growth and water supply/demand projection
- ✓ Ensure desalination projects are designed and operated to avoid, reduce or minimize environmental impacts
- ✓ Ensure adequate public involvement

Desalination and DWR (1)

- The Framework: California Water Plan Update,**
 - ❖ Develop a strategic plan for adequate, reliable, secure, affordable and sustainable water of suitable quality for all beneficial uses.**
 - ❖ Ensure that any resulting water supply be part of a balanced and comprehensive water portfolio that includes conservation and recycling.**

Desalination and DWR (2)

- ☐ No preference for or bias against specific technology
- ☐ No preference for feedwater sources, an equal weight to both Brackish and Ocean desal
- ☐ Prerequisite for support: **the implementation of all conservation and recycling programs.**
- ☐ Safeguards: Public and Environment Health Protection.
- ☐ Instruments: Technical and Financial Assistance.

Program:

Proposition 50 Chapter 6(a)

**“Desalination of Ocean or
Brackish waters”**

Program Objective

Assist local public agencies with the development of local water supplies through brackish water and oceanwater desalination

Proposal Solicitation Guidelines

- Proposition 50 Language
- AB 1747 Trailer Bill (statute of 2003)
- Water Desalination Task Force
Findings & Recommendations
- Other Relevant Laws
- **Public Input**

Eligible Applicants

Public entities involved with water management activities including:

Cities	Counties	Cities and counties
Joint power authorities	Public water districts	Non-profit organizations including watershed management groups
Tribes	Universities and colleges	State and federal agencies and other political subdivisions of the State

Applicant must have submitted a completed Urban Water Management Plan to DWR that meets the requirements.

Project Eligibility

- **Eligible:** brackish and oceanwater desalination construction projects for the development of local **Potable Water** supplies, research and development, feasibility studies, pilot, and demonstration projects.
- **Not eligible:** Wastewater treatment, and the treatment of impaired waters and agricultural drainage water unless for the creation of **New or Alternative Potable Water Supplies**.

Definitions

New potable water is water that without desalination treatment cannot be used for potable purposes.

Alternative potable water is water created by a desalination project to realize identified environmental benefits by replacing the same amount of freshwater withdrawn from a natural water body.

Important Desalination Issues

- Better feedwater pretreatment processes and strategies
- Value and limitations of beach wells for feedwater intake
- Technologies to reduce entrainment and impingement
- Strategies for brine/concentrate management
- Opportunities for energy efficiencies and application of alternative energy sources and combined energy and desalination technologies
- Improved membranes with high salt rejection and less susceptible to scaling and fouling
- Improved desalination process design, to include but not limited to: membrane processes and thermal processes
- Other applied research investigations aiming at refining/advancing desalination technology

Funding Criteria / Preferences

- ***Comprehensive conservation and recycling programs***
- ***New and improved technology***
- ***Public information, education, and outreach***
- ***Multiple-benefits***
- ***Ensure equitable access to benefits- address environmental justice impacts***

Eligible Project Types

Feasibility studies	\$250,000 / project
Research & development	\$1.0 million / project
Pilot or demonstration	\$2.5 million / project
Construction projects	\$5.0 million / project

- ***Funds Appropriated: \$25 million; 50 % matching funds required.***
- ***Matching fund is not required of qualified projects serving disadvantaged community (SB 117, Machado).***

Conflict of Interest, Confidentiality, Intellectual & Proprietary Rights

- *All participants are subject to State conflict of interest laws.*
- *All proposals become public information upon submittal to DWR.*
- *Applicant waives any rights to privacy and the confidentiality of the proposal.*

Review and Selection Process

Applications Received
(Deadline: 01/18/05)

Eligibility Review
(DWR Staff and Legal)

Technical Review

Score and Rank Proposals
(Draft Funding Recommendations)

Conduct Public Workshop
(Comments on Draft Funding Recommendations)

Final Funding Decision by DWR Director
(Posted to DWR Website)

Contract Negotiations Begin

Anticipated Schedule

7/8/04	<u>Draft</u> PSP released on website for public comment
8/17/04	2 Public Workshops: Northern California 8/12/04 Southern California 8/17/04
08/23/04	Public Comment Period ends
09/09/04	Cal. Bay-Delta Public Advisory Committee (BDPAC)
10/14/04	Calif. Bay Delta Authority Meeting
10/25/04	Final PSP released on website to accept proposals
11/15/04	Public Workshop for Final PSP
01/18/05	Proposals Due
03/28/05	Review process completed, Recomm. presented to Mangt.
05/03/05	Workshop to present draft funding recommendations
05/13/05	DWR makes final funding decision
06/01/05	Contract Negotiations begin
12/01/05	Contracts executed

Review Criteria

I	Relevance and Importance	20
II	Innovation and Technological Advancement	20
III	Technical Scientific Merit, Feasibility and Project Readiness	20
IV	Monitoring and Assessment and Assurances	10
V	Outreach, Information sharing, Environmental Benefits, and Environmental Justice	10
VI	Qualifications of the Applicants & Cooperators	10
VII	Costs and Benefits	10

No projects with a total score of less than 70 points shall be funded

Statement of Work 1:

Relevance and Importance (20 Pts)

- Goals and objectives
- Need for project as related to critical local, regional, Bay-Delta, State and federal water issues
 - Demonstrated need for **new or alternative** water supplies
- Show all conservation and recycling programs have been implemented before considering desalination

Statement of Work 2: Innovation and Technological Advancement (20 Pts)

- Describe innovative technologies or methodologies
- Contribution to cost-effective, technologically sound implementable methods

Statement of Work 3:

Technical Scientific Merit, Feasibility, & Project Readiness (20 Pts)

- Describe methods, procedures, equipment, facilities
- Complete project plan
- Final plans and specifications or preliminary if final not available
(for construction projects only)
- Plan for compliance with all applicable environmental requirements.

Statement of Work 4:

Monitoring and Assessment (10 Pts)

- Plan for project monitoring
- Plan to document water supply, water quality benefits and technology advancements
 - Pre-project conditions and data baselines
 - Monitoring methodologies
 - Evaluating success
 - Account for external factors, (energy costs, hydrologic conditions)
 - Data management and dissemination

Outreach, Information sharing, Environmental Benefits, and Environmental Justice (10 Pts)

- Describe plan for public outreach
- Identify local groups, organizations – level of support/opposition
- Describe how information and project results will be disseminated

Qualifications of Applicants and Cooperators (10 Pts)

- Résumé of project manager (s)
- Describe role of any external cooperators

Costs and Benefits (10 Pts)

- Complete Project Costs (Budget)
- Describe potential benefits and information to be gained advancing water desalination
- Compare potential benefits and information gained to anticipated costs

Helpful Links

Department of Water Resources

www.water.ca.gov

Recycling and Desalination Branch

www.owue.water.ca.gov/recycle/

OWUE Grants and Loans

www.owue.water.ca.gov/finance/

Questions ?

Need Assistance ?

Contact:

Technical:

Fawzi Karajeh
(916) 651-9669

fkarajeh@water.ca.gov

Grant application and process:

Debra Gonzalez
(916) 651-7026

debrag@water.ca.gov